e) The temperature of water from a lake.

(2) In heavy construction operations the variation in individual vehicle cycle times can cause delays in the total process.

a) Find the sample means, standard deviations, and coefficient of variation for each of the following specific steps in a cycle and for the total cycle time.
b) Which steps are "most variable"?
c) Which contribute most seriously to the variations in the total cycle time?
d) Is there an indication that some vehicle/driver combinations are faster than others? (Check by calculated haul and return time correlation).
e) How does the standard deviation of the sum compare to those of the parts?
f) How does the coefficient of variation of the sum compare to those of the parts?

Wait and exchange	Load	Haul	Dump and turn	Return	Total
0.00	1.58	2.08	0.46	2.55	6.67
0.00	1.72	1.95	0.53	2.45	6.65
0.00	2.52	2.18	0.40	3.13	8.23
0.51	1.84	2.08	0.53	2.53	7.49
1.02	1.74	2.15	0.61	2.54	8.06
0.00	1.71	2.20	0.63	2.52	7.06
1.71	1.85	2.12	0.49	2.51	8.68
2.35	1.67	2.25	0.64	2.46	9.37
1.12	2.38	1.99	0.69	2.52	8.70
0.50	2.06	2.07	0.41	2.44	7.48
1.29	1.92	2.18	0.54	2.36	8.29
0.00	2.08	2.12	0.59	2.69	7.48
0.83	1.85	1.96	0.60	2.52	7.76
0.46	2.23	2.16	0.55	2.47	7.87
1.05	1.94	1.99	0.57	2.49	8.04
0.77	2.05	2.08	0.60	2.68	8.18
0.00	1.88	2.03	0.80	2.35	7.06
1.32	1.98	1.94	0.50	2.36	8.10